Patent Claims

1. Process for the quantitative optical analysis of fluorescently labelled biological cells (5) which are applied to a transparent support at the bottom (2) of a reaction vessel (1) in the form of a coherent cell layer and are in contact with a solution (3) containing the fluorescent dye (4), or of luminescent, biological cells in the form of a coherent cell layer situated on the transparent support, characterized in that the fluorescent dye (4) already present in addition to a masking dye (9) which absorbs the excitation light (6) for the fluorescent dye (4) and/or its emission light (7) is added to the solution (3) and/or in that a separating layer (10) which is permeable to the solution and which absorbs and/or reflects the excitation light (6) for the fluorescent dye (4) and/or its emission light (7) or, in the case of the luminescent cell layer, reflects the luminescent light, is applied to the cell layer.

2. Process for the quantitative optical analysis of fluorescently or luminescently labelled reaction components in a reaction vessel (1) filled with a solution (3) in which a fluorescent or luminescent ligand (13) is dissolved and the solution (3) is in contact with a receptor layer (12), which is specific for this ligand (13) and is applied to a transparent support at the bottom (2) of the reaction vessel (1) or deposited thereon, whose fluorescent or luminescent radiation (7, 15), which is characteristic of the receptor-ligand binding, is detected and analysed through the transparent bottom (2), characterized in that a masking dye (9) is added to the solution (3) and/or a separating layer (10) permeable to the solution (3) is applied to the receptor layer (12), the optical properties of the masking dye (9) and/or of the separating layer (10) being selected such that the excitation light (6) for the fluorescent dye (4) of the ligand (13) present in the solution (3) and/or its fluorescent light (8) or its luminescent light is absorbed by the solution (3) or the separating layer (10) or reflected at the separating layer (10).

3. Process according to Claim 1 or 2, characterized in that the separating layer

(10) used is a layer of polymeric latex beads.

4. Process according to Claim 3, characterized in that the polymeric latex beads are dyed with a masking dye.

5. Process according to Claim 1 - 2, characterized in that a masking dye is used which possesses good water solubility and has no cytotoxic side effects.

6. Process according to Claim 1 - 2, characterized in that in the case of a replacement of the supernatant (3) containing a fluorescent dye (4) by a fluorescent dye-free solution (3a) a masking dye is added which suppresses the non-specific fluorescence emitted from the stained reaction vessel wall.